

Abstract Submitted
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Cosmic Ray Candidates in the Askaryan Radio Array and Implications for Neutrino Detection¹ AMY CONNOLLY, Ohio State University, ASKARYAN RADIO ARRAY (ARA) COLLABORATION — The Askaryan Radio Array (ARA) is an array of antennas deployed at 200m depth near South Pole, aiming to detect ultra-high energy neutrinos via the radio Askaryan technique. While neutrino detection is ARAs primary aim, measurement of cosmic rays via geomagnetic emission, which has been well established by other radio arrays at the surface, would provide a unique opportunity for calibration of the ARA detector as well as simulations of the instrument. ARA would observe cosmic rays from a unique vantage point in the deep ice, giving us the additional opportunity to observe a characteristic radio signature expected from cosmic ray showers that may penetrate the ice. We report on the first set of candidate cosmic rays observed by ARA, identified incidentally in data analysis leading to ARAs most recent search for neutrinos in four years of data from two stations. I will also discuss implications for current and future radio arrays in deep ice.

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